Docket No.:   P-0309   PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of   :   **OFFICIAL DRAFTSMAN**
                                         :
Hyun Duk CHO and Sung Deuk KIM   :
                                         :
Serial No.: 10/002,183   :   Group Art Unit: 2631
                                         :
Confirm. No.: 3476   :   Examiner: Unassigned
                                         :
Filed: December 5, 2001   :
                                         :
For: METHOD FOR CODING MOTION VECTOR USING 2-DIMENSIONAL
        MINIMUM BITRATE PREDICTING TECHNIQUE

LETTER SUBMITTING FORMAL DRAWINGS

Assistant Commissioner for Patents
Washington, D. C. 20231

Sir:

        Submitted herewith are three (3) sheets of formal drawings (Figures 1-9) in connection

with the above-identified application.

                                        Respectfully submitted,
                                        FLESHNER & KIM, LLP

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                                        Registration No. 36,186

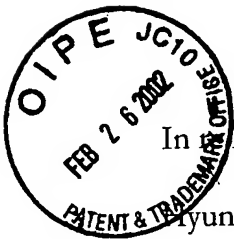P. O. Box 221200
Chantilly, VA 20153-1200
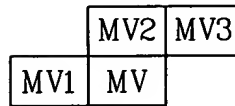703 502-9440 DYK/cah
Date: February 26, 2002

FIG. 1
BACKGROUND ART

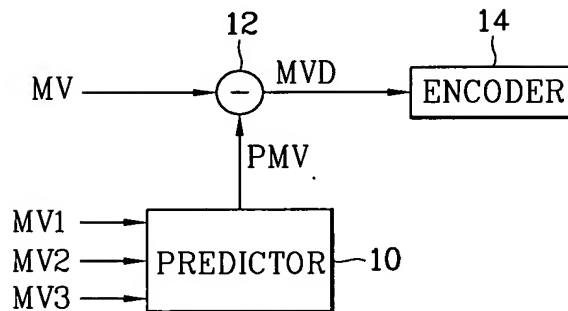|	MV2	MV3
MV1	MV	

FIG. 2
BACKGROUND ART

MV ──────► ⊖ ──MVD──► ENCODER
            12   14

            ▲ PMV

MV1 ──►
MV2 ──► PREDICTOR ─── 10
MV3 ──►

FIG. 3A
BACKGROUND ART

$MVD_{mbp} = +1.0$

MV1   MV   MV2   MV3
 ⊕   ✳   ⊕   ⊕
 0   1   2   3   4   5   6   7

FIG. 3B
BACKGROUND ART

MVD_{mbp} MVD_{mbp} MVD_{mbp}
$= +1.0$ $= +1.0$ $= +1.0$

MV1   MV   MV2   MV3
 ⊕   ✳   ⊕   ✳ ⊕   ✳
 0   1   2   3   4   5   6   7
      MVC1   MVC2   MVC3
     (valid)   (invalid) (valid)

FIG. 4

MVDx mbp	MODEx	MVDy mbp	MODEy
	(0~2 bit)		(0~2 bit)

FIG. 5

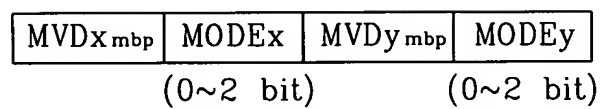| MVDxy mbp	MODExy
	(0~2 bit)
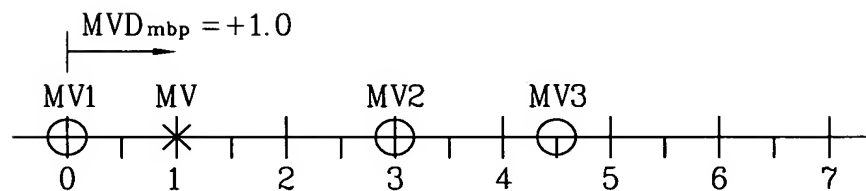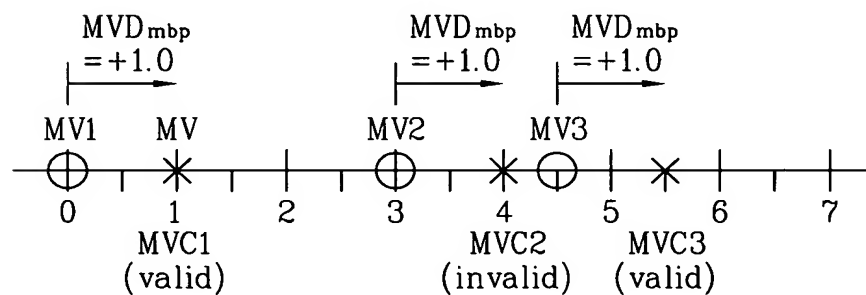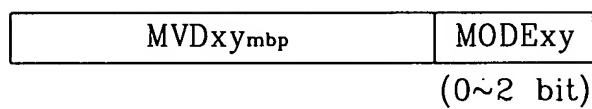
FIG. 6
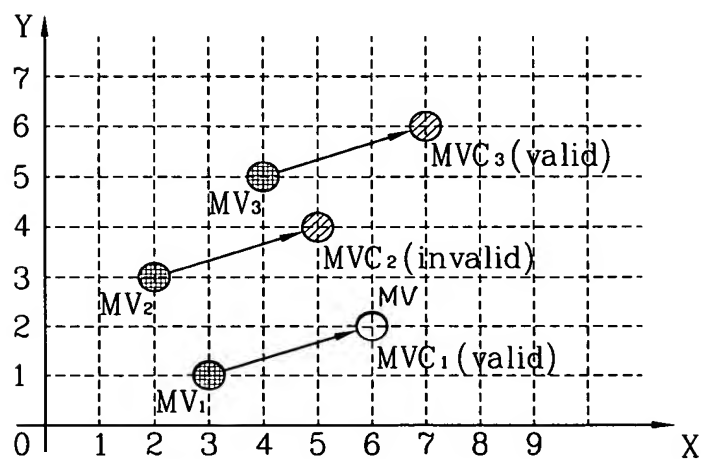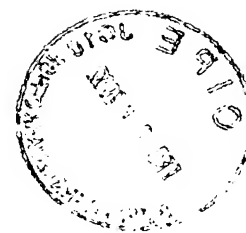
FIG. 7

No. of valid MVCi	True motion vector among valid MVCi			No. of bits	Code
1	Unique			0	x
2	MVC1	MVC1	MVC2	1	"0"
	MVC2	MVC3	MVC3	1	"1"
3			MVC1	1	"0"
			MVC2	2	"10"
			MVC3	2	"11"

FIG. 8

Syntax(Code)	Meaning
"1"	$MVDx=0$ and $MVDy=0$
"00"+MVDx+MVDy	$MVDx \neq 0$ and $MVDy \neq 0$
"010"+MVDx	$MVDx \neq 0$ and $MVDy=0$
"011"+MVDy	$MVDx=0$ and $MVDy \neq 0$

FIG. 9

$MVDx_{mbp} + MVDy_{mbp}$	$MODEx + MODEy$

(0~4 bit)